Remarks

Upon entry of the foregoing amendment, claims 1-3, 5-13, 22, 26-33, 35-37, and 45-56 are pending in the application, with claims 1, 22, 31, and 45 being the independent claims. New claims 45-56 are sought to be added. Support for the new claims is found throughout the specification. Claim 29 was amended to correct a minor formality. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Examiner Interview of September 16, 2004

Applicants wish to thank Examiner Havan for the opportunity to personally discuss the claims of this application with the undersigned in the Examiner Interview conducted on September 16, 2004. In that Interview, it was pointed out that the art cited in the Office Actions teach rasterization performed in a fixed-point format, whereas the present application claims rasterization performed in a floating-point format. This point is discussed in more detail below. During the interview, U.S. Pat. No. 5,862,066 to Rossin *et al.* was discussed in particular.

Rejections under 35 U.S.C. § 102

The Office Action states on page 3 that claim 31 is rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. Pat. No. 5,862,066 to Rossin *et al.* (hereinafter, "Rossin").

Specifically, the Office Action states that Rossin, col. 2, lines 12-67, discloses a computer system as claimed in claim 31. Applicants respectfully traverse this assertion.

As pointed out in the Office Action, Rossin discloses a computer graphics system that includes a geometry accelerator, the functions of which "result in rendering data which is sent to the frame buffer subsystem for rasterization." (Rossin, col. 2, lines 59-61.) However, "the rendering data is provided by geometry accelerator 110 along bus 112 to host interface 106 which re-formats the rendering data, performs a floating point to fixed point conversion, and provides such data along bus system 122 to frame buffer subsystem 104." (Rossin, col, 4, lines 35-39.) This conversion from floating point to fixed point format prior to rasterization in Rossin clearly teaches away from "a raster subsystem for performing a rasterization process, *the rasterization process performed in a floating point format*; and *a floating point frame buffer coupled to the raster subsystem for storing a plurality of floating point color values*," as recited in present claim 31 (emphasis added). In other words, Rossin teaches that the floating point format results from its geometry accelerator are converted to fixed point format prior to rasterization and prior to being stored in the frame buffer. Therefore, Rossin does not teach all the features recited in claim 31, which require, for example, that "*the rasterization process [be] performed in a floating point format*" and that the "*floating point frame buffer . . . stor[e] a plurality of floating point color values*" (emphasis added). Accordingly, the requirements for prima facie anticipation have not been met, and Applicants respectfully request that the rejection under 35 U.S.C. § 102(e) of claim 31, and its respective dependent claims, be removed and that these claims be passed to allowance.

Applicants wish to point out that prior art systems, such as Rossin's, which perform rasterization in fixed point format and store fixed point values in the frame buffer are

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discussed in the Background section of the present specification. See, for example, the paragraph starting at page 3, line 19 of the present specification, which discusses rasterization done in a fixed point format in the prior art. See also page 5, line 13 through page 8, line 13 of the present specification, which discusses storage of fixed point values in frame buffers of the prior art.

Rejections under 35 U.S.C. § 103

The Office Action states on page 4 that claims 1-3, 5-13, 22, 26-30, 32-33, and 35-37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Rossin in view of U.S. Pat. No. 6,115,047 to Deering *et al.* (hereinafter, "Deering"). Specifically, the Office Action states that Rossin discloses a computer system as claimed, with the exception of "a processor for performing geometric calculations on a plurality of vertices of a primitive." For reasons similar to those described above in reference to claim 31, Applicants respectfully traverse.

As shown above, Rossin's conversion from floating point to fixed point format prior to rasterization clearly teaches away from the claimed invention, and neither Deering nor any other applied document cures the deficiencies of Rossin. For example, neither Rossin nor any other applied document teaches or suggests "a rasterization circuit coupled to the processor that rasterizes the primitive according to *a rasterization process which operates using a floating point format,*" as recited in independent claim 1 (emphasis added). Similarly, neither Rossin nor any other applied document teaches or suggests "*rasterizing the data in a floating point format,*" as recited in independent claim 22 (emphasis added). Therefore, neither Rossin nor any other applied document, alone or in combination, teaches or suggests all the features recited in independent claims 1 or 22.

Accordingly, the requirements for prima facie obviousness have not been met, and Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) of independent claims 1 and 22, and their respective dependent claims, be removed and that these claims be passed to allowance.

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Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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